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Greek preschoolers' use of electronic media and their preferences for media or books

Triantafylia Natsiopoulou, PhD
Associate Professor, Department of Early Childhood Care and Education, Alexander Technological Educational Institution of Thessaloniki, Greece

Maria Bletsou
Department of Early Childhood Care and Education, Alexander Technological Educational Institution of Thessaloniki, Greece

Corresponding author: Triantafylia Natsiopoulou, Department of Early Childhood Care and Education Alexander Technological Educational Institution of Thessaloniki, PO Box 141, 57400 Thessaloniki, Greece Tel: (+30)2310791529 Fax: (+30)2310791523 e-mail: tnatsiop@bc.teithe.gr

Abstract

Aim: The aim of the present study was to explore the use of electronic media at home by Greek preschoolers and children's preferences for media or books.
Methodology: For data collection, 190 children 3.5- 5.5 years old were interviewed.
Results: The results of the study showed that in Greece TV has become an integral part of young children's life and the home computer expands rapidly into the younger ages. Most children watched TV and played on the computer without any parents' surveillance. Children liked cartoons and computer games and used TV and computer mainly for entertainement. Between media and books children preferred the media. However they liked storybooks and asked from their parents to read to them.
Conclusions: Today's children are growing up in a media- saturated environment. Parents should help them understand that media should be used selectivity and alongside with other activities.

Key words: preschoolers, TV, computer, children's book

Introduction

In the technologically developed countries, people become familiar with electronic devices at very young ages. Many children, even from early preschool years watch television and play on the computer (Florini 2010, Li & Atkins 2004). According to study Zero to six: electronic media in the lives of infants, toddlers and preschoolers, 68% of children under two use a electronic media. 43% of those under two watch TV every day, 31% of 0- 3 year olds and 70 % of 4—6 year olds have used a computer (Rideout, Vandewater & Martella 2003). Given the fact that during these years the cognitive skills are most malleables (Cunha, Heckman & Lochner 2006) and the habits not yet established, the use of the media by young children raise serious concerns. Firstly, in order for a child to understand technology, its senses must be developed. For this purpose, children need to manipulate objects (Piaget) and to interact with adults and other children (Vygotsky) (http://illinoisearlylearning.org/tipsheets/computers.htm). Therefore, many researchers suggest that the parents should not allow their children, under the age of three, to watch TV or use the computer (American Academy of Pediatrics 2005, Haugland 2010). Secondly, many researchers have shown that the TV as well as the computer can have a great impact on children. This observation was attributed to the content of the programs and the amount of time that the children spend watching in front of media.
Regarding the content, research has shown that TV may lead to aggressive behaviour due to violent scenes which are included even in children's programs (Huesman et al 2003, Johnson et al 2002), and to the development of undesirable qualities e.g. consumer behaviour and unhealthy nutritional habits, due to the advertisement of children's products (clothes, toys, chocolate, chips etc) (Anderson et al 2001).

On the other hand, preschoolers' exposure to educational programs contributed to vocabulary learning and to development of children's narrative and pre-reading skills (Linebarger & Piotrowski 2009, Wright et al 2001), even when they watch them at home, in an unfavourable family environment (Vandewater & Bickham 2004). In addition, it was mentioned that viewing informative programs during the preschool years was positively related to book reading during adolescence (Anderson et al 2001).

The time watching TV can affect children's development in two ways. Firstly, given the nature of the medium. TV viewing is a passive activity, physically and mentally. Therefore, it can have a negative effect on the children's health, because of the decrease of the amount of time spent on physical activity, as well as on their cognitive development, because TV programs do not let children interfere or actively participate. Secondly, children, like adults, have a limited time endowment. If TV viewing displaces other educational or social activities (e.g. book reading, play with peers or interact with adults) it might have a negative effect for children's cognitive and social development. Zimmermant & Christakis (2005) observed that the more time children spent watching TV before the age of 3, the worse they performed in math and reading tests in the age of 6 and 7 years old. Florini (2010), in a long-term research found that the amount of time preschool children spent watching TV (in total 8 hours during the week and 4 hours during weekends) was negatively associated to their performance in tests of cognitive and non-cognitive skills. Attewell, Suazo-Garsia & Bettle (2003) in a research with children aged between 4 and 13 years old showed that time spent in watching TV reduced the time spent in reading.

Over the last decades, more and more parents familiarize their preschoolers with the computer because they believe that the earlier their children begin to use computer, the better (Edwards 2010). However there exist controversial views for the computer use in preschool age. Proponents of the use of computers in early childhood argue that using computer from an early age prepares children for future computer use, increases self-esteem and self-confidence, improves school readiness and cognitive development, manual dexterity and early knowledge of writing and mathematics (KidSource online 2010). Studies have shown that the benefits mentioned above were associated with the use of qualitative and appropriate for the children's developmental level programs and the development of certain skills with the help of a computer was related to certain programs and the adult's active participation (Doliopoulou 1998, Clements 2002). Moreover, some studies demonstrated that the contribution of computers to the development of the child's cognitive skills was bigger in the preschool age than in later years (Florini 2010).

In spite of many benefits, researchers point out the negative effects of the use of computers by younger children such as development of aggressive behaviour and desensitization to violence, since the majority of electronic games contain some violence (Gentile 2010), restricted creativity and concentration, limited social development, limited physical activity, damage of sight, injury of the spine and the muscles (Edwards 2010). The amount of time that children spend in using computer is a critical factor. Li and Atkins (2004) in their study with preschool children noticed that using a home computer at least once a week was essential for the improvement of school readiness and cognitive development while it did not affect visual motor and gross motor skills. Florini (2010) found out that the time of computer use by children 4-5 years old (in total, 1.79h during the week and 0.71h during the weekend) and mainly the time during the weekend has a positive effect on children's cognitive skills and that is larger for girls, for children with low and highly educated parents and for children with working parents. The important relationship between the time during the weekend and cognitive development was attributed, by the researcher, to the fact that during the weekends the parents were not working and could supervise the children while using the computer, they could redirect them to more qualitative programs and even play with them. Attewell, Suazo-Garsia & Battle (2003) found out that children 4-13 years old who used the computer at home up to 8 hours per week performed better in tests of words- letters identification, in reading comprehension and mathematics while they showed higher self-esteem and they spent more time in reading books compared to children who did not own a computer. Children who used the computer for more than 8 hours spent significantly less time in playing sports and in other outdoor activities and they weighted heavier than the children who did not use a computer.

Computer and TV share some similarity but there have also major differences. TV has few children's programs while there exist many

programs for computers in the market. Thus, children have greater chances of choosing a program for the computer that suits their interests and their age. Playing on the computer, may be a sedentary activity, which, however, does not lead to mental passivity as it demands on the child cognitive awareness, imagination, judgement and decision- making skills (Zevenbergen 2007).

Today media technologies are making it even easier for children to spend more and more time with TV and computer. The Henry J. Kaiser Foundation study (2010) demonstrated that the amount of time 8-18 year olds spent with media increased significantly over the years 2004-2009. (from 6:21 h a day in 2004 to 7:38 h a day in 2009). In other research changes on the preference of electronic media over print media for leisure reading are becoming apparent (Du & Martin 2011, National Endowment for the Arts 2007). Studies in USA concluded that leisure reading among youth fell, due to the possible influence of electronic entertainment media (National Endowment for the Arts 2007). Especially over the years 2004-2009 time 8-18 year olds spent on reading books remained steady, at about 0:25 h a day, but with magazines and newspapers dropped (The Henry J. Kaiser Foundation 2010).

Regarding the competition between children's books and electronic media, researches have shown that book-reading continues to be a regular part of preschooler's lives, despite the plethora of new media.(Rideout, Vandewater & Martella 2003, Horn 2010). In The Henry J. Kaiser Family Foundation's research it was observed that 79% of children aged 0-6 years old will read or be read to, and those who do spend an average of 49 minutes reading, while 83% will use screen media for an average 2 hours and 22 minutes (Rideout, Vandewater & Martella 2003). Another research among children aged 5-12 years old showed that while 54% of the children interrupted book reading to watch TV and 41% to play on the computer, 96% of the children mentioned that they liked book reading. Moreover, according to the parents' answers, 52% of the children aged 4-7 years old spent more time in book reading than in TV viewing and the computer (Horn 2010).

Aim

Aim of the present study was to investigate the use of electronic media at home by Greek preschoolers and their preferences regarding the media and the book. Electronic media is defined as TV and computer (Wright et al 2001).

Methodology

Participants of the present study are 190 children, 99 boys and 91 girls, from 7 preschool centres participated. 93 of the children were aged 3.5-4.5 years old and 97 of them were aged 4.5-5.5 years old.

The collection of the data was obtained through personal interviews with the children. The interviews included questions regarding the children's relationship with the TV, the computer and the book. The questions regarding the TV were based on questions that we had addressed, through a questionnaire, to parents of children of preschool age in a previous research regarding the TV (Natsiopoulou & Melissa- Halikiopoulou 2009). For example: Do you have a TV at home? Do watch TV? Do you like TV? Why do you (or don't you) like TV? When you want to watch TV do you turn it on by yourself or do you ask your parents first? With whom do you watch TV? What do you watch on TV?

The same questions that were asked for the TV were also asked for the computer with some necessary alterations, ex. Do you have a computer at home? Do you have access to a computer? (if the answer was yes) Do you like the computer? Why do you (or don't you) like the computer? What are you doing with the computer? When you want to (play, paint etc.) on the computer do you turn it on by yourself or do you ask for your parent's help? With whom do you (play, paint etc) on the computer?

The questions regarding the book derived from a questionnaire that we had used in a previous research regarding parents' book reading to children (Natsiopoulou, Souliotis, Kyridis & Hatzisavvides 2006). ex. Do you like stories and fairytales? Do your parents read you books at home? (if the answer was yes) When the parents read to you is it because you asked them to or because they suggest it?

The interview finished with three questions regarding the children's preferences. Ex. What do you prefer: watch TV or playing on the computer? What do you prefer: have your mum read you a story or watch TV? What do you prefer: have your mum read you a story or playing on the computer?

The statistical data analysis was performed using SPSS for Windows and involved: frequency statistics and cross-tabulation statistics (chi-square, degrees of freedom, significance value).

Minimum level of significance was P≤ 0.05.

Results

All the children had TV at home and 73.5% of them had a home computer as well. 98.4% of the children watched TV, 81.4% of the children who had a home computer played on it and 93.6% of parents read to children storybooks. Children turned on the TV by themselves (62.4%) and the computer with their parents' help (62.8%) (Figure 1).

Most of them watched TV and played on the computer without the parents' participation (Figure 2).

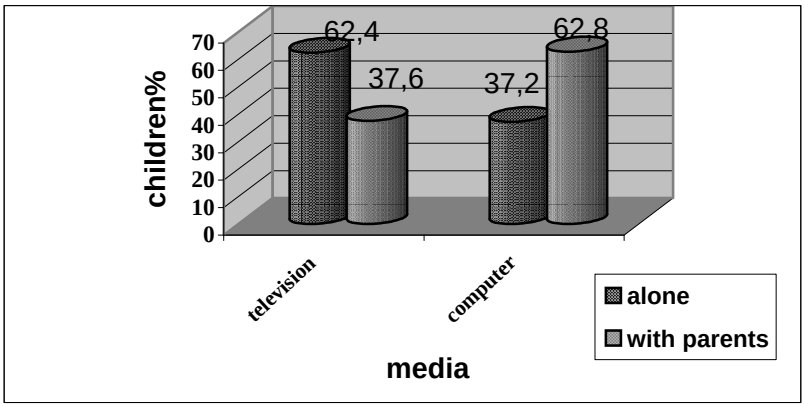

Figure 1. TV and computer access

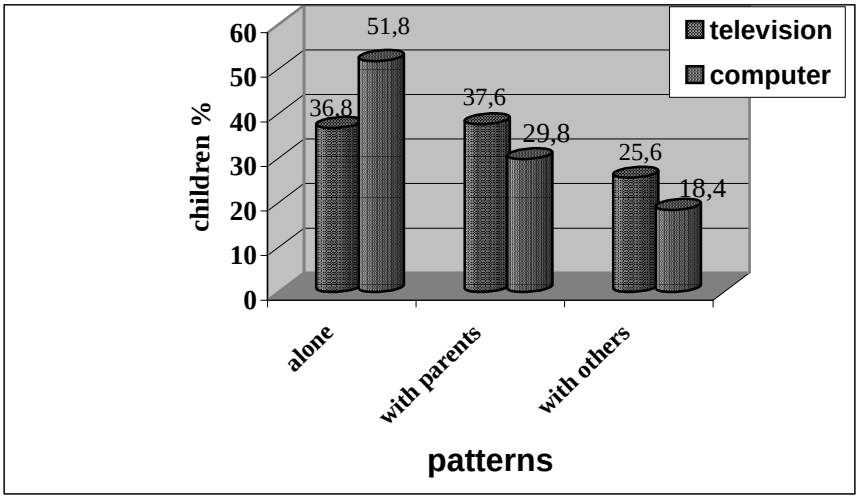

Figure 2. Patterns of TV viewing and playing on the computer

Significant correlation was observed between the children's age and playing on the computer with the parents (X^2=9.06, df=2, P=01). Younger children played on the computer with their parents more than the older children who played on the computer mainly alones (Figure 3).

The main reason why children liked the TV was the cartoons. All children watched cartoons. In addition to cartoons, some children, mainly older (X^2=9.30, df=1, P=00) watched other shows as well such as series (15.3%), sports (5.8%), which only boys watched, advertisements (5.3%), documentaries (4.8%) etc.

Children liked the computer because of the computer games. 69.3% of children played on computer recreational games, 26.3% educational games and 16.7% painted. Significant correlations were observed between painting and the sex of the

child (X^2 =9.12, df=1, P=00) and between painting and the children's age (X^2=5.58, df=1, P=01). Girls and younger children painted more than boys and older children respectively. Between the computer and the TV, the majority of the children (60.5%) preferred the computer.

93.2% of the children liked stories and fairytales and 55.4% of the children asked their parents to read to them. Older children asked for reading significantly more than younger children (X^2= 12.44, df=1, P=00) (Figure 4).

70.6% of the children preferred watching TV to reading books and 72.8% preferred playing on the computer to reading books. Girls preferred reading books to the TV significantly more than the boys did (X^2=18.80, df=1, P=00) (Figure 5).

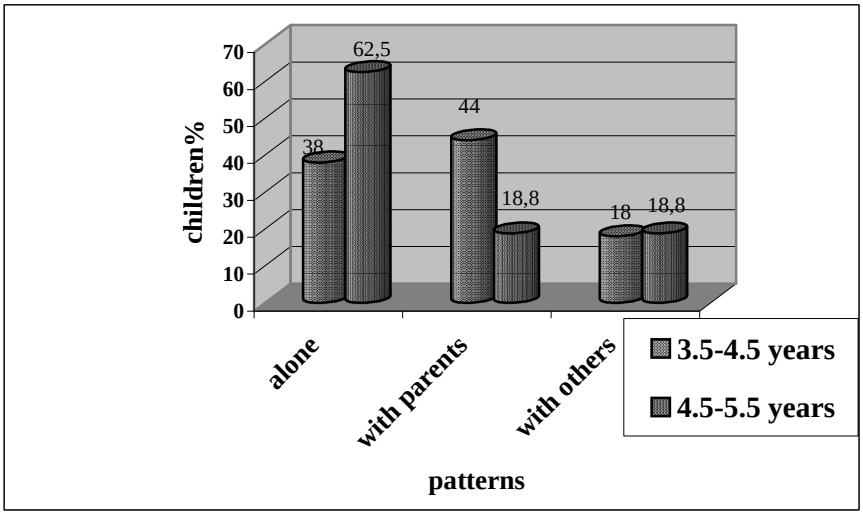

Figure 3. Playing on the computer according to children's age

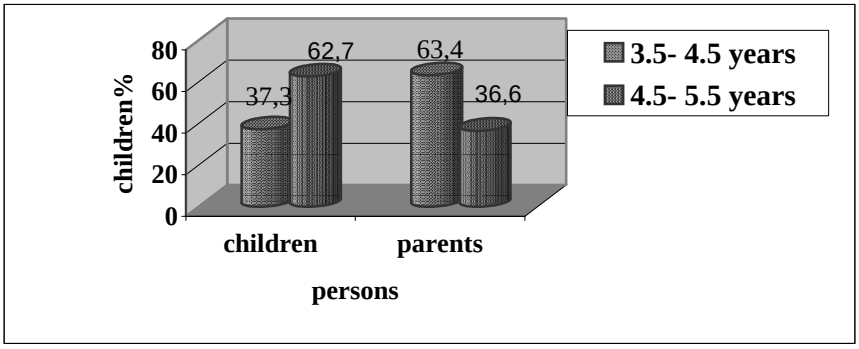

Figure 4. Initiative in book reading according to children's age

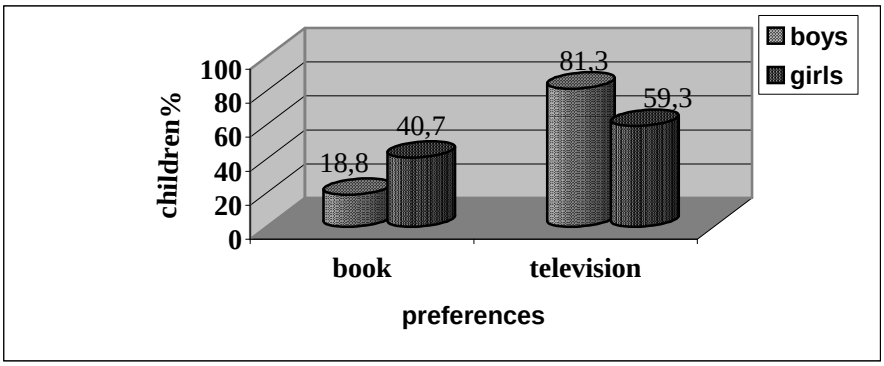

Figure 5. Preference for book or TV according to children's sex

Discussion

The objective of the present study was to describe media access and their use at home among Greek preschoolers and their preferences for the media or the books. The findings agree with those from previous researches, that in Greece, TV has become an integral part of young children's everyday life (3.5- 5.5 years old) (Natsiopoulou & Melissa- Halikiopoulou 2009, Economidis 2005) and the computer expands rapidly into the younger ages. While in the year 2000, 30.7% of the children aged 8-14 years old used the computer at home (Vryzas & Tsitouridou 2002) and, in the middle of the decade, this percentage was 57.6% among children aged 5-6 years (Kalogiannidou 2005), according to the present study, by the end of the decade, 73.5% of the families with children aged 3.5- 5.5 years old owned a computer. However, there are many who remain sceptical regarding the early computer use and they do not allow their children to use it 'because they are too young', according to some children's responses. The present study found that Greek preschoolers used the TV and the computer mainly for entertainment. This finding is in accordance with the results from other studies which showed that, among the TV shows, cartoons are the first choice among children of preschool age (Natsiopoulou & Melissa-Halikiopoulou 2009, Economidis 2005) and that younger, as well as older children use the computer at home mainly to play games (Kalogiannidou 2005, Vryzas & Tsitouridou 2002). Between the TV and the computer children preferred the computer. Given the fact that content of many computer games is cartoons on TV, children's preference for the computer could be attributed to the characteristics of electronic games such as active participation, repetition of movements, feeling of winning and reward for the competent player. The characteristics mentioned above make electronic games very attractive (Gentile 2004). Like in other researchers, between the book and electronic media, children preferred the media (Horn 2010, Florini 2010, Natsiopoulou & Melissa- Halikiopoulou 2009), but the girls preferred reading books to TV more than the boys. However the children's relationship with books is estimated to be satisfactory. Almost all parents read to their children, children liked stories and fairytales and their desire for reading was growing with age. Given the fact that cartoons, the main reason why children love TV, narrate stories similar to those in children's books it is obvious that the children's preference to cartoons has to do mainly with the techniques of stories' presentation. The fast moving images, the colours and sounds that accompany them and the easily understood content make TV stories more attractive than book stories which ask for concentration and mental effort. Some of the children's answers to the question 'Why do you like TV' are indicative such as 'because the images change quickly', 'because the images have bright colours'.

On the other hand, the home computer use by preschool children, satisfy their need for play. According to some researchers, the game has a different form for the children of the technological era, it has become electronic, but even as such it can offer much more than just entertainment and can contribute to the children's cognitive development as physical objects do (Zevenbergen 2007). Today, there are many educational electronic games which, through the parents, offer, in the most pleasant way, even to younger children a lot of knowledge about the language, the mathematics, the numbers, the colours etc. (Manohar 2010).

Parents' participation is the most important requirement for the proper use of the TV and the home computer by children. Their participation comprises the setting of rules about what children watch and how much time they spent for electronic media (Gentile 2004). Due to the fun that media offer, children dedicate for these more time than what it is suggested (in total 1-2 hours per day for all electronic media) (Stutz 2010). In this study we found that most of the children used the TV and the computer without parents' surveillance and that the number of children playing on the computer alones increased according to age. These findings, in association with the fact that children used the TV and the computer mainly for fun, raised a lot of concerns since observations in early childhood programs have strongly supported the importance of early media awareness and literacy. More specifically, it was observed that patterns set in the early preschool years with regards to television viewing can snowball as the child gets older and school work becomes harder. Children who watched informative, educational television as a preschooler watched more informative TV as they got older and used television as a complement to school. Children who watched more entertainment television, watched fewer informative programs as they got older and used television more for entertainment and as a leisure pastime (MacBeth

1996). Especially regarding the home computer, there exist many scientists who support that only the fact that computers offer pleasure is not by itself a sufficient reason for them to be used by younger children since, on one hand they take children away from useful activities and, on the other hand, the conscious use of the computer as an educational tool is being cancelled (Tsantis, Bewick & Thouvenelle 2003). In a research regarding the positive outcomes from the early use of a home computer by children during their primary school attendance it was found that there were no immediate or startling differences between the users and non-users at the preschool level. However data confirmed noticeable positive differences for the second-graders who had the opportunity to use computers appropriately when they were preschoolers as compared to the second-graders who did not have this opportunity. Children at the second-grade level exhibited increased comfort and facility in using computers and greater understanding of how to use computers in a more purposeful way in their learning (Wheatley 2003).

Today's children are growing up in a media-saturated environment. TV and computer are virtually guaranteed to play an ever- increasing role in daily life of children. In order to limit the negative and increase the positive outcomes deriving from media, parents should watch TV and play on the computer with their children as often as possible, thus helping them understand that the TV and the computer are media to be used selectively and alongside with other social and physical activities. Especially regarding the TV it would be nice if, after discussing with their children, they decided together which TV shows they were allowed to watch, while directing them to more educationally oriented programs, and also how much time they are allowed to watch TV. Regarding the computer, parents can download and update online games and educational activities while looking for open-enden software that encourages creativity, language skills, early reading skills and problem-solving and that they should avoid games which demonstrate violence and destruction as fun or as an acceptable way to solve problems (http://illinoisearlylearning.org-tipsheets/computers.htm). By observing what the kids are doing, parents can ask probing questions or propose problems to enhance and expand their computer experience (KidSourse online 2010). Most important of all, parents should focus on learning together. Rather than leaving preschoolers alone in front of a TV or a computer screen, they should stay with them to use media for interaction and togetherness (Melissa-Halikiopoulou, Natsiopoulou & Obessi, 2010).

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